

In the Claims:

14. (currently amended) A control rod, comprising:

four absorber blades forming an orthogonal cross having a cruciform center and having an upper part, a lower part, an inner part proximal to the cruciform center, an outer part distal to the cruciform center, a width in a radial direction of the blade and a length in a longitudinal direction of the blade, wherein neutron absorbing material is arranged in the outer part of each blade and neutron absorbing material is not arranged in at least a portion of the inner upper part of each blade and wherein a mean quantity of absorber material per unit length of the control rod is less in the upper part than in the lower part; and

a plurality of first recesses arranged in the upper part of the blades and a plurality of second recesses arranged in the lower part of the blades, the first and second recesses operative to permit moderator access to the cruciform center to control burn up of fissile material along the length of the absorber blade, the first and second recesses comprising through holes extending through the inner portion of the absorber blades and arranged in the inner part of the blades distributed along the absorber blades at the cruciform center, wherein the first recesses arranged in the upper part of the blades are wider than at least a majority of the second recesses arranged in the lower part of the blades.

15. (new) A control rod, comprising:

four absorber blades forming an orthogonal cross having a cruciform center and having an upper part, a lower part, an inner part proximal to the cruciform center, an outer part distal to the cruciform center, a width in a radial direction of the blade and a length in a longitudinal

direction of the blade, wherein neutron absorbing material is arranged in the outer part of each blade and neutron absorbing material is not arranged in at least a portion of the inner upper part of each blade and wherein a mean quantity of absorber material per unit length of the control rod is less in the upper part than in the lower part; and

a plurality of recesses arranged in the blades, the recesses being operative to permit moderator access to the cruciform center to control burn up of fissile material along the length of the absorber blade, the first and second recesses comprising holes extending through the inner portion of the absorber blades and distributed along the absorber blades at the cruciform center, wherein recesses arranged in the upper part of the blades are wider than at least a majority of recesses arranged in the lower part of the blades.